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10/537,504

11/30/2005

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EXAMINER

LEE, GILBERT Y

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/537,504	Applicant(s) MEIER, REINHOLD	
	Examiner GILBERT Y. LEE	Art Unit 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15,16,18-31 and 41-46 is/are pending in the application.
- 4a) Of the above claim(s) 43-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15,16,18-31,41 and 42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed 11/15/07 has been entered.

Election/Restrictions

2. Claims 43-46 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 3/19/08.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 28 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 28 and 29 depend from claims 15 and 20 respectively; however, the preamble to the claims only claims the subcombination of a honeycomb seal. It is unclear as to how the subcombination of a seal can have a rotor, a stator and a radial gap therebetween. If a combination of gas turbine having, a rotor, a stator, a radial gap therebetween, and a honeycomb seal is being claimed, the preamble to claims 28 and 29 must be amended.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 15, 16, 18, 20-22, and 24-31, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by McGinnis et al. (US Patent No. 4,416,457).

Regarding claim 15, the McGinnis et al. reference discloses a honeycomb seal (Fig. 1), in particular to seal a radial gap (Fig. 1) between a rotor (e.g. 1) and a stator (e.g. 5) of a gas turbine (note that McGinnis et al. reference is **capable of** sealing a gas turbine) such that a base element and honeycomb elements of the honeycomb seal are an integral structure (Fig. 1). MPEP 2113 Product-by-Process Claims states that "If the product in the product-by-process claim is that same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process." The process by which the honeycomb seal is made is not a patentable distinction.

Regarding claim 16, the McGinnis et al. reference discloses the honeycomb seal being composed of several segments (Col. 1, Lines 51-55) and wherein the segments and wherein each segment has a base element (7) and honeycomb elements (e.g. 9).

Regarding claim 18, the McGinnis et al. reference discloses the segments being connectable to a supporting structure (e.g. 5) and wherein the segments and the supporting structure are manufactured of different materials (Fig. 1).

Regarding claim 20, the McGinnis et al. reference discloses a honeycomb seal (Fig. 1), in particular to seal a radial gap (Fig. 1) between a rotor (e.g. 1) and stator (e.g. 1) of a gas turbine (note that McGinnis et al. reference is **capable of** sealing a gas turbine), and wherein the base element and honeycomb elements are an integral structure (Fig. 1).

Regarding claim 21, the McGinnis et al. reference discloses the honeycomb seal being composed of several segments (Col. 1, Lines 51-55), wherein each segment has a base element and honeycomb elements (Fig. 2).

Regarding claim 22, the McGinnis et al. reference discloses the base element of each segment including at least one guide section (e.g. sections of element 7 overlapped by element 5) and wherein each segment is connectable to a supporting structure via the guide section (Fig. 1).

Regarding claim 24, the McGinnis et al. reference discloses the segments of the honeycomb seal and the supporting structure being manufactured of different materials (Fig. 1).

MPEP 2113 Product-by-Process Claims states that "If the product in the product-by-process claim is that same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process." Claim 25 is anticipated by McGinnis et al. The process by which the honeycomb seal is made is not a patentable distinction.

Regarding claim 26, the McGinnis et al. reference discloses the honeycomb seal and the supporting structure being manufactured as a single piece (Fig. 1).

Regarding claim 27, the McGinnis et al. reference discloses the honeycomb seal and the supporting structure being manufactured as a single piece (Fig. 1).

Regarding claims 28 and 29, the McGinnis et al. reference, as best understood, discloses the seal of claims 15 and 20 in combination with a rotor (e.g. 1) and a stator (e.g. 5) of a turbine wherein a radial gap exists between the rotor and the stator (Fig. 1), wherein the radial gap is sealed by the honeycomb seal, and wherein the radial gap lies between a rotating moving blade of the rotor and a housing of the stator or between a non-rotating guide blade of the stator and the rotor (Col. 1, Lines 46-50).

Regarding claims 30 and 31, the McGinnis reference discloses the honeycomb elements and the base element being composed of different materials (Fig. 1).

5. Claims 15, 16, 18, 20-22, 24-31, 41, and 42, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Chaplin et al. (US Patent No. 4,897,021).

Regarding claim 15, the Chaplin et al. reference discloses a honeycomb seal (48), which seals a radial gap (gap between 20 and 55) between a rotor (20) and a stator (44) of a gas turbine (Col. 1, Lines 12-15), such that a base element and honeycomb elements of the honeycomb seal are an integral structure (Fig. 3). MPEP 2113 Product-by-Process Claims states that "If the product in the product-by-process claim is that same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process." The process by which the honeycomb seal is made is not a patentable distinction.

Regarding claim 16, the Chaplin et al. reference discloses the honeycomb seal being composed of several segments (Col. 4, Lines 67-68) and wherein each segment has a base element (84) and honeycomb elements (48).

Regarding claim 18, the Chaplin et al. reference discloses the segments being connectable to a supporting structure (e.g. 55) and wherein the segments and the supporting structure are manufactured of different materials (Figs. 3 and 4).

Regarding claim 20, the Chaplin et al. reference discloses a honeycomb seal (48), which seals a radial gap (gap between 20 and 55) between a rotor (20) and stator (44) of a gas turbine (Col. 1, Lines 12-15), wherein the seal has a base element (84) and honeycomb elements (48), and wherein the base element and honeycomb elements are an integral structure. MPEP 2113 Product-by-Process Claims states that "If the product in the product-by-process claim is that same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process." The process by which the base element and honeycomb elements are integral is not a patentable distinction.

Regarding claim 21, the Chaplin et al. reference discloses the honeycomb seal being composed of several segments (Col. 4, Lines 67-68), wherein each segment has a base element (84) and honeycomb elements (48).

Regarding claim 22, the Chaplin et al. reference discloses the base element of each segment including at least one guide section (62 and 64) and wherein each segment is connectable to a supporting structure via the guide section (Figs. 1-4).

Regarding claim 24, the Chaplin et al. reference discloses the segments of the honeycomb seal and the supporting structure being manufactured of different materials (Figs. 3 and 4).

MPEP 2113 Product-by-Process Claims states that "If the product in the product-by-process claim is that same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process." Claim 25 is anticipated by Chaplin et al. The process by which the honeycomb seal is made is not a patentable distinction.

Regarding claims 26 and 27, the Chaplin et al. reference discloses the honeycomb seal and the supporting structure being manufactured as a single piece (Figs. 3 and 4).

Regarding claims 28 and 29, the Chaplin et al. reference discloses the seal of claims 15 and 20 in combination with a rotor (e.g. 1) and a stator (e.g. 5) of a gas turbine (Col. 1, Lines 12-15) wherein a radial gap exists between the rotor and the stator (gap between 20 and 55), wherein the radial gap is sealed by the honeycomb seal, and wherein the radial gap lies between a rotating moving blade of the rotor and a housing of the stator or between a non-rotating guide blade of the stator and the rotor (Fig. 1).

Regarding claims 30 and 31, the Chaplin et al. reference discloses the honeycomb elements and the base element being composed of different materials (Figs. 3 and 4).

Regarding claims 41 and 42, the Chaplin et al. reference discloses the base element including a guide section (62 or 64) and wherein the guide section is a u-shaped structure (Figs. 3 and 4) on a lateral end of the base element (Figs. 3 and 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGinnis et al. in view of Inoue (EP Pub. No. 1,298,368 A2).

Regarding claim 19, the McGinnis et al. reference discloses the base element of the segments including at least one guide section (e.g. sections of element 7 overlapped by element 5), wherein the segments are connectable to the supporting structure via the guide section (Fig. 1).

However, the McGinnis et al. reference fails to explicitly disclose adjacent segments being interlocked with each by a projection of a first segment engaging with a corresponding recess of a second segment.

The Inoue reference, a seal for a turbine, discloses interlocking segments using a projection (15B) and recess (15A).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the McGinnis et al. reference with projections and recesses for

interlocking each segment in view of the teachings of the Inoue reference in order to prevent radial displacement of the segments when the seal is in use.

Regarding claim 23, the McGinnis et al. reference discloses the invention substantially as claimed in claim 22.

However, the McGinnis et al. reference fails to explicitly disclose adjacent segments being interlocked with each by a projection of a first segment engaging with a corresponding recess of a second segment.

The Inoue reference, a seal for a turbine, discloses interlocking segments using a projection (15B) and recess (15A).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the McGinnis et al. reference with projections and recesses for interlocking each segment in view of the teachings of the Inoue reference in order to prevent radial displacement of the segments when the seal is in use.

7. Claims 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chaplin et al. in view of Inoue (EP Pub. No. 1,298,368 A2).

Regarding claim 19, the Chaplin et al. reference discloses the base element of the segments including at least one guide section (62 or 64), wherein the segments are connectable to the supporting structure via the guide section (Figs. 3 and 4).

However, the Chaplin et al. reference fails to explicitly disclose adjacent segments being interlocked with each by a projection of a first segment engaging with a corresponding recess of a second segment.

The Inoue reference, a seal for a turbine, discloses interlocking segments using a projection (15B) and recess (15A).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the Chaplin et al. reference with projections and recesses for interlocking each segment in view of the teachings of the Inoue reference in order to prevent radial displacement of the segments when the seal is in use.

Regarding claim 23, the Chaplin et al. reference discloses the invention substantially as claimed in claim 22.

However, the Chaplin et al. reference fails to explicitly disclose adjacent segments being interlocked with each by a projection of a first segment engaging with a corresponding recess of a second segment.

The Inoue reference, a seal for a turbine, discloses interlocking segments using a projection (15B) and recess (15A).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the Chaplin et al. reference with projections and recesses for interlocking each segment in view of the teachings of the Inoue reference in order to prevent radial displacement of the segments when the seal is in use.

Response to Arguments

8. Applicant's arguments filed 11/15/07 have been fully considered but they are not persuasive.

With regards to the applicant's argument of the base element and the honeycomb sealing elements not being integrally molded, the argument is not persuasive because the definition of integral as stated by the third definition found on dictionary.com recites: 3. consisting or composed of parts that together constitute a whole. Clearly the base element and the honeycomb seal elements of the McGinnis et al. and the Chaplin et al. references constitute a whole. As rejected above, how the base element and the honeycomb sealing elements are made integral is not a patentable distinction.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GILBERT Y. LEE whose telephone number is (571)272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patricia L Engle/
Supervisory Patent Examiner,
Art Unit 3673

/G. Y. L./
Examiner, Art Unit 3673